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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,454	01/02/2001	Stefan Dyckerhoff	0023-0014	7151

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EXAMINER

PEZZLO, JOHN

ART UNIT PAPER NUMBER

2662

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,454

Applicant(s)

DYCKERHOFF ET AL

Examiner

John Pezzlo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-72 and 83 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-25 and 42-72 is/are allowed.
- 6) ☒ Claim(s) 26-29 and 83 is/are rejected.
- 7) ☒ Claim(s) 30-41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>15 July 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

I. Claims 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Sindhu et al. (US 5,905,725) hereinafter Sindhu.

1. Regarding claim 26 – Sindhu discloses at least one sprayer configured to receive packets on at least one incoming packet stream and distribute the packets according to a load balancing scheme (round robin procedure), refer to Figures 2B (callouts 107 and 100) and 5B and column 2 lines 14 to 67 and column 4 lines 21 to 51.

Sindhu discloses a plurality of packet processors configured to receive the packets from the at least one sprayer and process the packets to determine routing information for the packets, refer to Figure 5A (callouts 514, 515, 510, and 505) and column 2 lines 14 to 67 and column 5 lines 26 to 53.

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Sindhu discloses at least one desprayer configured to receive the processed packets from the packet processors and transmit the packets on at least one outgoing packet stream, refer to Figure 2B (callouts 102 and 108) and column 2 lines 14 to 67 and column 4 lines 21 to 51.

2. Regarding claim 27 – Sindhu discloses a receive controller configured to divide the packets received by the at least one receive interface into a plurality of cells of a predetermined size and store the cells in the shared memory, refer to Figures 2B (callouts 107 and 100) and 5B and column 2 lines 14 to 67 and column 4 lines 21 to 51.

3. Regarding claim 28 – Sindhu discloses wherein the receive controller is further configured to link the cells of a packet together within the shared memory, refer to Figures 6 and 9 and column 6 lines 24 to 67 and column 8 lines 33 to 65.

Sindhu discloses wherein the cell memories are linked together to form logical queues in the shared memory, the logical queues corresponding to at least an input queue and an output queue of variable size, refer to Figure 7 and column 7 lines 5 to 67.

4. Regarding claim 83 – Sindhu discloses a plurality of packet processors configured to receive packets and process the packets to determine routing information for the packets, refer to Figure 5A (callouts 514, 515, 510, and 505) and column 2 lines 14 to 67 and column 5 lines 26 to 53.

Sindhu discloses at least one sprayer configured to receive the packets on at least one incoming packet stream and distribute the packets to the packet processors so as to

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balance a number of packets distributed to each of the packet processors (round robin procedure), refer to Figures 2B (callouts 107 and 100) and 5B and column 2 lines 14 to 67 and column 4 lines 21 to 51.

Sindhu discloses at least one desprayer configured to receive the processed packets from the packet processors and transmit the packets on at least one outgoing packet stream, refer to Figure 2B (callouts 102 and 108) and column 2 lines 14 to 67 and column 4 lines 21 to 51.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claim 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sindhu (same as above) in view of Sandquist (US 5,506,841).

1. Regarding claim 29 - Sindhu discloses a router, which includes input ports and multiplexers (sprayers) and output ports and demultiplexers (desprayers) and a controller and a shared memory, which comprises dividing packets into cells and storing the cells in the shared memory using a load balancing scheme, round robin procedure.

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Sindhu does not expressly disclose a scheduler configured to preserve an order of the packets through the network device by determining a dispatch time for each of the packets received by the at least one sprayer and scheduling the packets for transmission from the at least one sprayer at the corresponding dispatch times.

Sandquist teaches receiving packets made up of ATM cells and tagging the packets for a dispatch time for transmitting the packets in order to preserve the order of the ATM cells for the packets, refer to Figure 5 and column 2 lines 25 to 67 and column 3 lines 1 to 37 and column 5 lines 19 to 45.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the scheduling features of Sandquist with the router of Sindhu. The suggestion/motivation for doing so would have been that Sindhu discloses a key for storing the packet and the key could also include the tag of Sandquist for scheduling the dispatch times. The benefit being the cell (packet) ordering would be preserved.

Allowable Subject Matter

Claims 1-25 and 42-72 are allowable over the prior art of record.

Claims 30-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 15 July 2005 have been fully considered but they are not persuasive.

1. Regarding claim 26 - Applicants argue on pages 27 and 28 of the response that the reference, Sindhu, does not disclose or suggest a plurality of packet processors connected to the at least one sprayer and configured to receive the packets from the at least one sprayer and process the packets to determine routing information for the packets. The examiner respectfully disagrees. As shown in Figure 5A, callouts 514, 515, 510, and 505, the examiner interprets the key reading engine (514), the linking engine (515), the indirect cell processor (510), and the output processor (505) as the plurality of packet processors which receive the packets (cells) from the at least one sprayer (input ports, 107) and collectively process the packets (cells) to determine routing information for the packets (cells). The examiner has mapped the plurality of input ports as the at least one sprayer, wherein each input port provides a packet to the packet processors in a round robin scheme which is a load balancing scheme, refer to Figure 5A callout 500.

2. Regarding claim 83 - Applicants argue on page 29 of the response that the reference, Sindhu, does not disclose the at least one sprayer is connected to distribute packets to each of the packet processors according to a load balancing scheme. The examiner respectfully disagrees. The examiner has mapped the plurality of input ports as the at least one sprayer, wherein each input port provides a packet to the packet

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processors in a round robin scheme which is a load balancing scheme, refer to Figure 5A callout 500.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Oskouy et al. (US 6,791,947 B2) discloses in-line packet processing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Pezzlo whose telephone number is (571) 272-3090. The examiner can normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C.

or faxed to:

(703) 872-9306

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For informal or draft communications, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:


Jefferson Building

500 Dulany Street

Alexandria, VA.

John Pezzlo

1 August 2005



JOHN PEZZLO
PRIMARY EXAMINER